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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,054	02/08/2001	Michael Sakuth	MULLER22	7181
7590	12/01/2003			
C James Bushman Browning Bushman Suite 1800 5718 Westheimer Houston, TX 77057			EXAMINER JOHNSON, EDWARD M	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 12/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/701,054	SAKUTH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Edward M. Johnson	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 37-62, 74 and 75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-62, 74 and 75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>10/27/03</u> . | 6) <input type="checkbox"/> Other: _____                                    |

DETAILED ACTION

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 48-51 and 55-61 are rejected under 35 U.S.C. 102(b) as being anticipated by Jorgensen et al. US 4,714,537.

Regarding claim 48, Jorgensen '537 discloses using for hydrogenating/dehydrogenating (see column 9, lines 18-20), impregnating the silicate with an anionic, cationic, or neutral complex, and washing with water (see column 12, lines 17-20 and 55-60).

Regarding claims 49 and 58-60, Jorgensen '537 discloses water (see column 12, lines 17-20).

Regarding claims 50-51, Jorgensen '537 discloses phosphoric acid (see column 11, lines 50-56).

Regarding claims 55-56, Jorgensen '537 discloses temperatures of ambient up to 100 degrees Celsius (see column 12, lines 5-7).

Regarding claim 57, Jorgensen '537 discloses hydrochloric acid (see column 11, lines 34-36).

Regarding claim 61, Jorgensen '537 discloses calcining at 200-900 degrees Celsius (see column 9, lines 52-55).

3. Claims 37-47, 54, 62, and 74-75 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jorgensen '537.

Regarding claims 37 and 75, Jorgensen '537 discloses a silicate catalyst carrier with increased silica:alumina ratios of 500:1 or more (see column 12, lines 21-35).

Regarding claims 38-39 and 74, Jorgensen '537 discloses montmorillonite (see paragraph bridging columns 12-13).

Regarding claim 54, Jorgensen '537 discloses using for hydrogenating/dehydrogenating (see column 9, lines 18-20).

Regarding claim 62, Jorgensen '537 discloses using for hydrogenating/dehydrogenating (see column 9, lines 18-20), impregnating the silicate with an anionic, cationic, or neutral complex, and washing with water (see column 12, lines 17-20 and 55-60).

In the event any differences can be shown for the product of the product-by-process claims 37-47, 54, 62, and 74-75, as opposed to the product taught by Jorgensen '537, such differences would have been obvious to one of ordinary skill in

Art Unit: 1754

the art at the time the invention was made as a routine modification of the product in the absence of a showing of unexpected results; see also In re Thorpe, 227 USPQ 964 (Fed.Cir. 1985).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen '537 as applied to claims 37 and 75 above, and further in view of Lambert US 5,080,778.

Regarding claims 40-41, Lambert '778 discloses a pore volume of 0.1-1 cc/g (see column 9, lines 50-56).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pore volume of Lambert in the hydrogenation catalyst carrier of Jorgensen because Lambert discloses his pore volume in a catalyst carrier for use in hydrocarbon conversion (see

Art Unit: 1754

column 1, lines 12-15) to process heavier feeds and provide higher selectivity (see column 9, lines 44-46).

Regarding claims 42-45, Jorgensen discloses 1/16 inches (see Example 1) and Lambert '778 discloses a small diameter sphere (see column 9, lines 18-19) and about 1/16 inches (see Example 1).

6. Claims 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen '537 as applied to claims 36-37 above, and further in view of McWilliams US 5,145,659.

Jorgensen fails to disclose a crushing strength of at least 20 N/mm

McWilliams '659 discloses a crushing strength of 100 lbs/in<sup>2</sup> (see Example C1).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the crushing strength of McWilliams in the high silica:alumina ratio catalyst of Jorgensen because McWilliams discloses his crushing strength for use in a catalyst to increase the silica of the available matrix (abstract).

***Allowable Subject Matter***

7. Claims 52-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: It would not have been obvious to one of ordinary skill in the art at the time the invention was made to use a temperature of 160-300 degrees Celsius and a water vapor pressure of 16-25 bar, wherein the carrier is impregnated with phosphoric acid, in the processes of the instant claims 52-53.

***Response to Arguments***

9. Applicant's arguments filed 10/27/03 have been fully considered but they are not persuasive.

It is argued that turning to the art rejections... Jorgensen '537. This is not persuasive because montmorillonite, which is a layered silicate, is disclosed (see paragraph bridging columns 12-13) and Jorgensen '537 discloses increased silica:alumina ratios of 500:1 or more (see column 12, lines 21-35). Further, Applicant does not appear to allege any difference between the claimed product and the disclosed product. Applicant merely alleges that the process by which the products are made are different, which would not preclude the instant 102/103 rejection absent a showing of unexpected result (see In re Thorpe, above).

It is argued that while it is true that Jorgensen '537 discloses montmorillonite clay... Col. 13, 18. This is not persuasive because Applicant claims a catalyst using the open language "comprising", which does not exclude the possibility of other ingredients, including zeolite. Therefore, since Applicant appears to admit that montmorillonite is disclosed and because Jorgensen '537 discloses increased silica:alumina ratios of 500:1 or more, the claim reads on the prior art disclosure.

It is argued that it is abundantly clear that Jorgensen '537 does not disclose or suggest... by a dealuminating process. This is not persuasive for the reasons above.

It is argued that claim 62 stands rejected... Jorgensen '537. This is not persuasive because Applicant appears to offer no argument or evidence of unexpected result aside from the unsupported assertion that the claimed product is "*ipso facto*" different.

It is argued that claims 40-45 stand rejected... Lambert '778. This is not persuasive because Lambert is not relied upon for applicant's alleged deficiencies of Jorgensen with respect to the instant independent claims. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so



found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pore volume of Lambert in the hydrogenation catalyst carrier of Jorgensen because Lambert discloses his pore volume in a catalyst carrier for use in hydrocarbon conversion (see column 1, lines 12-15) to process heavier feeds and provide higher selectivity (see column 9, lines 44-46).

It is argued that claims 46-47 stand rejected as obvious... U.S. No. 5,145,659. This is not persuasive for the reasons above and because it is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the crushing strength of McWilliams in the high silica:alumina ratio catalyst of Jorgensen because McWilliams discloses his crushing strength for use in a catalyst to increase the silica of the available matrix (abstract).

#### **Conclusion**

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is

reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Application/Control Number: 09/701,054  
Art Unit: 1754

Page 10

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EMJ  
November 20, 2003

  
STANLEY B. SILVERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700